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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/047,251	01/14/2002	Collin E. Thomas	TEXG:003USD1	6847

7590

10/21/2005

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EXAMINER

HANLEY, SUSAN MARIE

ART UNIT	PAPER NUMBER
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1651

DATE MAILED: 10/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/047,251

Applicant(s)

THOMAS ET AL.

Examiner

Susan Hanley

Art Unit

1651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20,25-27 and 32-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20,25-27 and 32-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date 10/13/05
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

Art Unit: 1651

DETAILED ACTION

The amendment filed 8/8/05 has been entered. Claims 20, 25-27 and 32-52 are pending.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Response to Arguments

Claim Rejections - 35 USC § 112

Claims 20, 25-27 and 32-52 stand rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for decreasing the drug resistance in a target plant by contacting said plant with a compound consisting of the molecules I-XIX or α - β methyleneadenosine 5'-diphosphate (newly added claim 52) in conjunction with a drug to inhibit ecto-phosphatase, thereby down regulating the ABC transporter, wherein the ABC transporter can be *Arabidopsis thaliana* AtPGP-1, wherein the ecto-phosphatase can be from the specie *Pisum sativum*, does not reasonably provide enablement for decreasing the drug resistance in a plant by contacting said plant with any possible compound to inhibit ecto-phosphatase in conjunction with a drug.

Applicant argues that data provided in the inventors' declaration demonstrates that that application of an ecto-phosphatase inhibitory molecules in conjunction with an active ingredient enhances the efficacy of the active ingredient in controlling weeds. Applicant alleges that the specification provides sufficient guidance to enable one of skill in the art to the practice of decreasing drug resistant in a plant cell. Applicant argues that the full scope of the claims is enabled because practitioners of the art typically engage in experimentation and even complex experimentations is not necessarily undue.

Responding to Applicant's argument regarding the declaration filed under 37 CFR 1.132 filed 8/8/05 is insufficient to overcome the rejection of claims 21, 25-27 and 32-52 based upon enablement rejection as set forth in the last Office action because: The declaration does not teach the skilled artisan with guidance to choose the next likely compound that will inhibit a plant ecto-phosphatase because it does not describe a method to design and make analogs that potentially serve as ecto-phosphatase

Art Unit: 1651

inhibitors. The declaration discloses how ecto-phosphatase inhibitors were chosen by a primary screening method with crop and weed species. The remainder of the declaration is devoted to data regarding the efficacy of the claimed compounds. The declaration does not teach how compounds were chosen for testing in the primary screen. Simply testing any possible compound in the disclosed primary screen does not provide the skilled artisan with any criteria that would enable said artisan to pick the next most likely ecto-phosphatase inhibitor without resorting to the testing of hundreds or thousand of molecules in high throughput screens. Therefore, the declaration fails to provide convincing evidence that the skilled artisan with guidance pertaining to the desired analogs relevant structural or physical characteristics that would render an analog as a potential ecto-phosphatase inhibitor.

Responding to Applicant's argument that the specification provides sufficient guidance to enable one of skill in the art to the practice of decreasing drug resistant in a plant cell, it was explained in the previous Office action why the specification failed to support the enablement of the instant invention. It was noted that the specification disclosed that prior to this application, "there has been no identification of specific inhibitors of ecto-phosphatase" (p. 10). Furthermore, the specification does not identify the library used for screening. The only guidance regarding the disclosed inhibitors is that they to fall within five classes of compounds based on functional group.

This does not constitute enablement because the disclosure of a high throughput screen of thousands of compounds and a general classification of the compounds I-XIX by functional group does not provide the skilled artisan with guidance pertaining to the desired analogs relevant structural or physical characteristics that would render an analog as a potential ecto-phosphatase inhibitor. The structures of the compounds I-XIX are diverse and appear to be unrelated. The specification lacks disclosure that provides the skilled artisan with a structural analysis of the disclosed compounds that would guide the practitioner with methods of determining how to alter one of the disclosed inhibitors to yield an analog that has the desired properties. The prior art does not solve this problem. As disclosed in the instant specification, there are no known inhibitors of ecto-phosphatases. Although a search of the

Art Unit: 1651

literature turned up $\text{Al}_2(\text{SO}_4)$ hydrate as an ecto-phosphatase inhibitor, it is an inorganic molecule and bears little resemblance to compounds I-XIX.

Responding to Applicant's argument that the full scope of the claims is enabled because practitioners of the art typically engage in experimentation and even complex experimentations is not necessarily undue, this argument is not persuasive because it is unclear to what type of experimentation Applicant refers. Is the alleged experimentation related to screening, genetic manipulations of plants or the synthesis of ecto-phosphatase inhibitors? Applicant has not supported this assertion with any evidence.

Claims 20, 25-27 and 32-50 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 20 is rejected because it is unclear if the drug that is introduced to the plant cell in conjunction with the ecto-phosphatase inhibitor is the same drug for which the ecto-phosphatase inhibitor reduces resistance.

Claim Rejections - 35 USC § 102

The rejection regarding claims 20, 25 and 26 under 35 U.S.C. 102(b) as being clearly anticipated by Bernatskaya et al. (1976) with English abstract and Caplus database abstract is withdrawn in light of the amendment to claim 20 which adds that the inhibitor is introduced to the plant cell with a drug. This limitation is not taught by the reference. Regarding Applicant's request for a translation of the reference, the Examiner submitted a translation request of the reference to the PTO Library. The translation is not complete at this time. The examiner will FAX a copy of the translation when it becomes available.

Art Unit: 1651

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

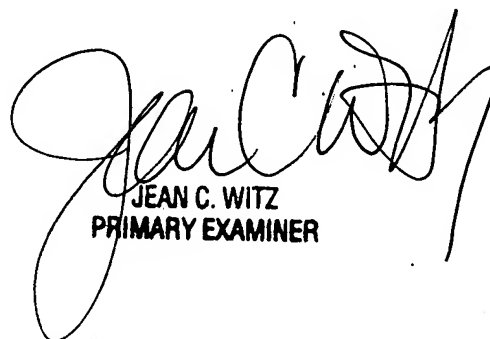
Art Unit: 1651

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan Hanley whose telephone number is 571-272-2508. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Wityshyn can be reached on 571-272-0926. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Susan Hanley
Patent Examiner
1651



JEAN C. WITZ
PRIMARY EXAMINER